

Ten strategies for research quality in distance research during COVID-19 and future food system shocks

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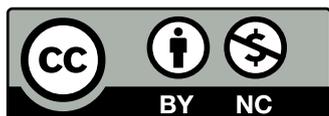
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A. Challenges to research for development during COVID-19

Food systems are faced with increasingly difficult challenges from COVID-19 and future climate, socioeconomic, health and other shocks. To build forward better from these shocks, effective responses are needed. These responses rely on accurate and timely data and evidence on the multifaceted *effects* of the pandemic or other shocks to food systems and on the diverse women and men affected. Equally, reliable and timely information is also needed regarding which local to regional *innovations and responses* are working, which ones are not, for whom and why.

Yet research and development organizations, including multi-actor research partnerships, face multiple challenges to data collection and research during health, socioeconomic or environmental shocks, including periods of extraordinary restrictions on movement and social interactions. This includes the following interconnected factors:

- Gathering primary data is taking place in a period when women and men in food systems, both aquatic and land-based, are already facing multiple challenges. These include primary effects from the initial shock and secondary effects from the responses, such as lockdowns, social distancing and restrictions to markets. These span from health, care burdens, economic downturns, food and nutrition challenges and social challenges (from gender-based violence to accentuated inequalities and discrimination).
- New primary data needs to be gathered from a distance, such as by phone or other virtual means, which poses challenges to effective sampling, accuracy and more.
- It can be difficult to engage women, in particular, for reasons ranging from imbalances in phone access, time burdens or barriers to identifying and connecting to individuals.
- More broadly, low-income individuals and rural communities might have limited telecommunication network access and connectivity, as well as limited ability to charge phones batteries or buy phone credit.

- Expectations of producers and other value chain actors might be increasing regarding the role of research and development organizations, such as brokering between actors, as well as compensation for time spent contributing to research. This requires re-assessing and adapting research plans and budgets.
- The magnitude and dynamic pace of change of the pandemic and its effects (including effects of responses), as well as organizational and program pressures, could push teams to rush design and implementation. This could lead to weaker investments in and fewer assurances on quality, including ethical dimensions and partnerships for effectiveness.
- During this period, competing demands for political attention and response, and tense or politically fraught situations, could impede teams' access to information or to some actors and thus perspectives.

All of these factors pose challenges to the quality of research and require some re-assessment of how to proceed during this period in ways that are relevant, legitimate and ethical, rigorous and effective.

B. Guiding principles for research for development during COVID-19

In the face of the above challenges, designing and carrying out studies to produce the needed and accurate information, ethically and effectively, will require research for development (R4D) alignment to the following:

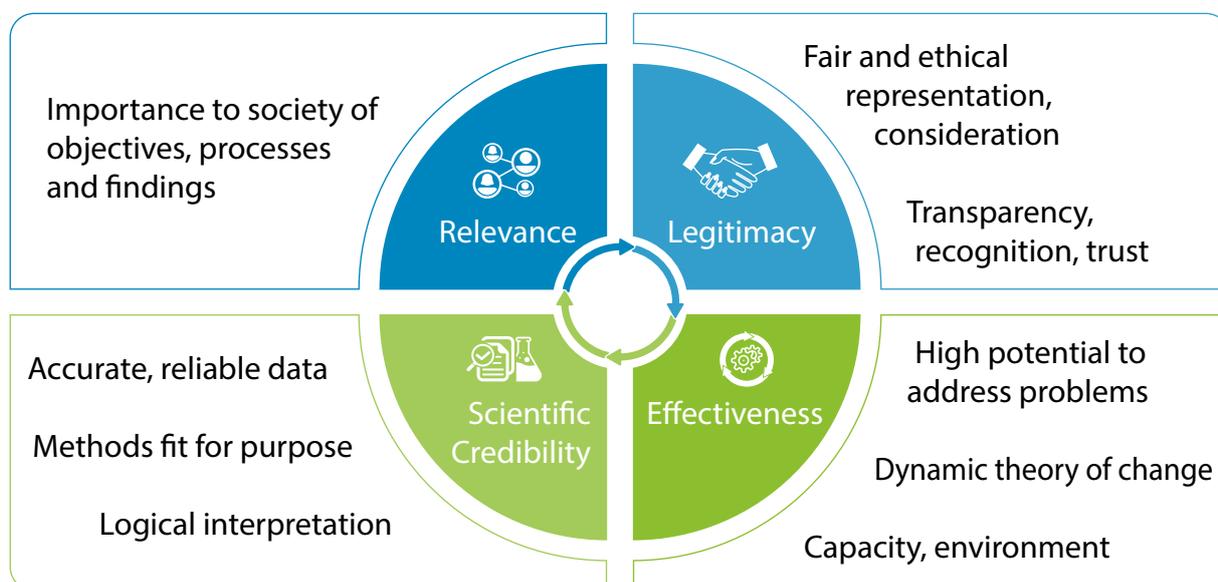
- CGIAR Quality of Research for Development Framework (Figure 1)
- UN framework for the immediate socioeconomic response to COVID-19 (UN 2020)
- Ethical standards for research during public health emergencies: Distilling existing guidance to support COVID-19 research and development (WHO 2020)
- Other global principles regarding COVID-19 and crisis responses and research:
 - gendered impacts of COVID-19 and equitable policy responses in agriculture, food security and nutrition (FAO 2020)¹
 - Committee on World Food Security's Framework for Action for Food and Nutrition during Protracted Crises (CFS 2020; Table 1)
 - Food and Agriculture Organization's (FAO) emergencies guidance note (FAO 2020; Table 2).

The focus of the CGIAR Research Quality Framework is on *relevance, legitimacy, effectiveness and scientific credibility*. The UN, World Health Organization and FAO's pandemic-related principles complement

“ All research conducted during a public health emergency must have scientific validity and social value. Proceeding otherwise exposes participants and researchers to unnecessary risk and is ethically unacceptable.

—WHO 2020:3

this framework, particularly elevating the first three elements. Specifically, the principles underscore the interrelated issues of the need for any research in this period to accomplish the following: *directly contribute to recovery* (social value outweighing the costs to participants), *do no harm*² and, specifically, *protect and benefit those groups most at risk*. As identified in Figure 2, the UN considers *those most at risk to be women, as well as adolescents and older people, from groups such as small farmers and fishers, migrants and minorities* (Figure 2). The do no harm imperative relates not only to research, but also to COVID-19 responses. As underscored by the UN (2020) and others, such as Lewis (2020), responses to previous epidemics, such as Ebola, have led to perverse consequences that must be avoided, such as increases in maternal mortality, reduction in contraception and girls dropping out of school.



Source: adapted from ISPC 2017, ISDC 2020a, ISDC 2020b.

Figure 1. Element of quality in research for development.

People identified as “at risk populations experiencing the highest degree of socioeconomic marginalization and requiring specific attention in the United Nations Development System immediate development response”

- Women
- Older people, adolescents, youths and children, in particular young women and girls
- People with disabilities and people with mental health conditions
- Indigenous peoples
- Refugees, stateless and internally displaced people and conflict-affected populations
- Migrants and minorities
- People in institutionalized settings or in detention
- People in informal settlements, people dwelling in slums, homeless persons
- People living with HIV/AIDS and other people with pre-existing medical conditions
- Smallholder farmers, fishers, pastoralists and other people living in remote areas
- Rural workers in formal and informal markets
- Urban informal sector and selfemployed people who depend on markets for food
- People who are food insecure, particularly in countries affected by prolonged conflict and crisis
- People in extreme poverty or who have insecure and informal work and incomes
- Groups that are particularly marginalized and vulnerable because laws, policies and practices do not protect them from exclusion and discrimination (e.g. LGBTI people).

Source: Adapted from UN 2020:7.

Figure 2. The UN framework on populations requiring specific attention during COVID-19.

What does this mean for research for development and development projects and programs working in foods systems, including aquatic, land and interconnected systems? Overall, it calls on teams to design, implement, monitor and adapt studies during this period with explicit attention to the following:

- *identifying specific and potentially divergent needs and experiences of the women and men most affected and at risk* (Box 1)

- *mitigating burdens and risks* for research participants (respondents)
- *organizing studies and partnerships strategically so that they directly inform effective policy, development program, civil society and private sector responses.*

Section C aims to help operationalize these critical needs and guidance from the above frameworks by synthesizing them into into 10 practical strategies.

Box 1. Imperative to include gender analysis.

Given the extent to which COVID-19 impacts and response effects are gendered (in particular that women have been identified as “at risk,” including from unintended perverse effects of policy or program responses), there is a global call for strong collection of gender data in COVID-19 assessments. See for example:

- Data2x: <https://data2x.org/resource-center/gender-and-data-resources-related-to-covid-19/>
- EMERGE: <http://emerge.ucsd.edu/covid-19/>
- Feed the Future/AWE: <https://mailchi.mp/c2fab35e9fc1/awe-newsletter-may-2020?e=a85e9c081a>
- CARE and IRC: <https://www.care.org/news-and-stories/press-releases/new-covid-19-global-rapid-gender-analysis-addresses-concerns-of-women-and-girls-in-pandemic/>

C. Ten strategies for research quality

Ten strategies for research quality during COVID-19 social distancing and other food system shocks at a glance

I. Relevance

1. As a foundation, identify who is most at risk and assess their needs.
2. Involve key actors early in designing all aspects of research, including planning use of the data and findings.

II. Legitimacy

3. Proceed only if benefits outweigh costs to participants.
4. Do no harm.
5. Pro-actively use research interactions to contribute to well-being and safety.

III. Scientific credibility

6. Increase accuracy through well-designed sampling and analysis—both engaging and differentiating between key socioeconomic groups of women and men.
7. Design research around gender barriers that might otherwise limit women's involvement or create risks.
8. Apply solid basics of quality science design, despite pressures to move forward quickly with COVID-19 studies.

IV. Effectiveness

9. Go beyond thinking "we'll just make the data open access"—collaborate with end users from the beginning to set up for success.
10. Take an interdisciplinary, food systems, and wellbeing-oriented approach, both "zooming in" and "zooming out."

Here we present 10 strategies and tips for effective, inclusive and ethical research during COVID-19 social distancing, particularly with phone surveys in mind, and for distance research during future shocks. These strategies are particularly relevant to research on the effects and innovations in response to COVID-19, but are broadly applicable to any research-for-development work during these conditions.

The 10 strategies have been developed with reference to the global guidance and frameworks (section B) and based on the CGIAR Research

Program on Fish Agri-Food Systems (FISH) and partner expertise and early experience during COVID-19. We loosely map these strategies to the four CGIAR research quality elements of relevance, legitimacy, scientific credibility, and effectiveness. These are not prescriptions; rather, they flag ideas and potential ways to address the challenges. Underlying all these is the need for researchers and teams to *pro-actively build on existing relationships*, to be *accountable and trustworthy in ensuring mutual benefit*, as well as persistent in *creative problem-solving*, and *keeping aligned with ethics, rigor, effectiveness and legitimacy*.

I. Relevance

1. As a foundation, identify who is most at risk and assess their needs.

A research priority is to align with the [UN guidance](#) (i.e. focus on people who are most at risk) and contribute to policy and program responses that are effective and inclusive. To do so, data collection will need to keep people at the center of our studies. It must also be gender-integrated and intersectional from the outset, looking at age, wealth group, livelihood group and other key characteristics. This means that as a foundation, research will need to accomplish the following:

- 1.1. Identify who is at risk. Assess which women and men, from which socioeconomic groups and where in the value chains, are most at risk from COVID-19 and at risk of being “left behind” (missed out) by responses to the crisis. Which groups are at risk of perverse consequences from pandemic responses, such as social distancing measures? Why and how are these groups vulnerable? To reduce burdens on respondents, some of this can be done using existing data as well as key informants, then complemented with new primary data as needed. This information is critical as the foundation for prioritizing and for informing research and policy and development responses so they avoid harm.
- 1.2. Assess diverse needs. Investigate how different women and men have common or different experiences and risks. It is important to unpack the following: How are women and men from different groups affected in their lives and livelihoods? How do they differ in their access to the assets, information or services they need? To what extent do women and men from different groups have equal say in decision-making about COVID-19 responses, including natural resource or market governance? If these are not equitable, what can local to national responses do to “level the playing field”? As a priority, identify immediate and long-term needs of different women

and men, particularly those most at risk. This is the basis for informing policy and program responses to ensure these avoid perverse outcomes and do not exacerbate gender gaps—but rather reach and benefit both women and men.

- 1.3. Identify resilience and strengths to build on. Evidence that identifies resilience, in conjunction with risk, can create a more robust framework and response plan (Bretherton and Ride 2011). Even at-risk communities, such as remote fishing villages, have networks, resources and practices that enable resilience in times of crisis. For instance, local communication networks can be rapid and responsive in disasters, even in settings where access to technology is limited. Formal or informal groups and networks (such as processing, trade or microcredit bodies) may have capacities, connections or knowledge that can be an important part of response and recovery solutions. By identifying what local systems, customs and networks are enabling positive responses to shocks and disruptions, research can inform responses that build local capacities and strengths, including networks and agency among women, marginalized ethnic groups and other disadvantaged people. As such, in conjunction with looking for risks and needs, it is important to seek out and integrate what strengths and opportunities can be built on to contribute to the resilience of local to national (or even trans-border) systems.

2. Involve key actors early in designing all aspects of the research, including planning use of the data and findings.

As recommended by the WHO (2020), involving local participants and local to national end users of the research in the design stage increases the fit of the information gathered with the priority information needs of stakeholders.

Engaging local to national actors can also increase legitimacy (section II) in that it increases shared ownership and builds transparency and trust. Furthermore, it can contribute to legitimacy and effectiveness in terms of enhancing the voice of those who tend to have

less say in decision-making in the sector across scales. Moreover, it can increase effectiveness (section IV), including enabling rapid use of findings to inform responses because end users have early access. This avoids a lag period between research and application. Connecting with key local to national actors in the design phase can also reveal opportunities to coordinate efforts with other researchers, community groups or development workers.

Many organizations are developing research projects to track impacts and responses to COVID-19. Although not all of these projects are compatible, many have areas of overlap. Coordinating research can prevent unnecessary duplication of research efforts, reduce participant and community disruption and increase data standardization and comparability across projects and sites.



Photo credit: Kingkar Shaha/Monifish

Reduced availability of fish and other foods in markets during the COVID-19 pandemic has implications for nutrition and livelihoods in Chandpur, Bangladesh.

II. Legitimacy (including ethics)

“ Phone surveys in developing countries need an abundance of caution.
—3ie 2020 ”

In addition to the *standard ethical procedures for research (human ethics permission/institutional review board) and always having informed consent*, FISH researchers can safeguard the people involved in the research through ethics-related strategies, such as strategies 3, 4 and 5 as follows:

3. Proceed only if benefits outweigh costs to participants.

As underscored by the WHO (2020), the foundational point in this dimension is that it is only ethical for a study to proceed in this circumstance if the social value outweighs the burdens.

Consider benefits and costs both for direct participants and for their wider community. This pause-and-check includes asking if reliable data is available elsewhere and if new primary data is absolutely necessary for an effective COVID-19 response.

“ Ask yourself, ‘Is your phone survey going to improve these respondents’ lives in the next few months during the COVID-19 crisis? Are you working with this country’s health ministry or an NGO or government partner trying to give money or other help that directly benefits these poor people?’ If yes, then proceed with your survey. For all other surveys, pause and be circumspect.
—3ie 2020 ”

4. Do no harm.

If you proceed with data collection, then become familiar with the risks and how to mitigate them, especially by drawing on local knowledge. Phone interviews and other forms of research during this period can add time burdens, costs (phone calls, disruption to economic activity) and emotional stress.

Confidentiality can be more difficult, as calls are received in family homes or workplaces. Strategies to counter potential harm include the following:

- 4.1. As you develop a study-specific protocol, include a focus on and clear strategy for minimizing and monitoring participant stress (4.7) and ensure all enumerators are trained in these skills.
- 4.2. Keep surveys or interviews short. The Poverty Action Lab (Massachusetts Institute of Technology) recommends no more than 30 minutes,³ and others suggest as little as 15–20.⁴ Do this by asking only what is needed and what will be used directly to inform inclusive and effective responses.
- 4.3. Choose times that work for participants, especially around care activities and to allow them privacy, if they need it. Book in advance to respect participants’ schedules, or allow respondents to call you (the researchers/enumerators) at a time that is convenient to them.
- 4.4. Find an ethical and appropriate form of compensation. Work with local stakeholders to identify what is fit-for-context to compensate participants’ contribution of time and knowledge, phone credits and electricity charge. For example, use phone vouchers or credits or e-transfers, if appropriate. Factor this into budgets.
- 4.5. Be clear (and follow through) regarding how the information will be used and who it will be shared with, as well as information about anonymity. While this could be part of normal informed consent, virtual interviews and times of stress increase difficulties in comprehension and true informed consent. Be prepared to re-clarify and answer questions. As noted by Cornell University, “Informed consent is more than just a form; it is a process that takes place between researcher and participant.”⁵ Be strict in protecting anonymity. Both are especially important given concerns regarding potential backlash toward actions perceived as dissent during this sensitive time.

- 4.6. Avoid increasing tensions or risking gender-based violence in the household. Become informed and sensitive about negotiating who in the household will do the interview or respond to the survey. Consider for example, if it is important to discuss the goals and processes—or even get “permission”—for less powerful household members to participate, particularly young women.
- 4.7. Assess the influence of the interviews on and with participants, and adapt to be sure the research is not increasing stress or burdens. Surveys can add stress or anxiety to people whose mental health is already under pressure during the pandemic and its aftermath (Townsend et al. 2020). Using a rapid form of feedback (monitoring) can be useful during COVID-19, because it alerts us to any harm of this kind and allows us to rapidly adjust if needed. Drawing from the field of psychology, this kind of rapid assessment involves simple before-and-after “mood assessment tools,” such as those highlighted in *The Lancet* for COVID-19 research (Townsend et al 2020). Interviewers can have periodic verbal or other check-ins over time to assess this, including if they are causing any tensions or time burdens, or if any questions have arisen from the participant.

5. Pro-actively use the research interactions to contribute to well-being and safety.

Having a connection to individuals through research comes with a responsibility to ensure mutual benefit. During COVID-19, the research process itself can be an opportunity to increase access to information that protects participants from harm. This is particularly important given widely spread misinformation about COVID-19, and because access to critical services for maternal health and women’s safety could be compromised, especially as gender-based violence is rising. Consider how the telephone survey or other research connections can provide concise and accurate information or messaging of benefit to participants regarding areas such as the following:

- water, sanitation and hygiene (WASH) and COVID-19 prevention
- sharing domestic work, childcare and care and positive household relations
- contact information for professional confidential services and support for gender-based violence
- nutrition, including intra-household food distribution
- mental health, reproductive and maternal health information or service centers.



We have seen studies that do not provide sufficient information to enable fully informed consent, do not measure mood before or after participation, do not provide any signposting other than to potentially anxiety-provoking messages about COVID-19, and do not attempt any kind of mood mitigation or debrief to help to stabilize anyone that does become distressed after participation. We would recommend that researchers be mindful that general research into the impacts of COVID-19...should be viewed as a highly sensitive topic, with similar attention to safeguards needed to protect the well-being of participants.

—Townsend et al. 2020



III. Scientific credibility

“*Now is the time for the building of data to drive a more evidence-focused and targeted approach to prevention and care.*”
—EMERGE 2020

6. Increase accuracy through well-designed sampling and analysis—both engaging and differentiating between key socioeconomic groups of women and men.

Data that will inform effective COVID-19 responses—including those that cause no harm and leave no one behind (UN, 2020)—will need to involve, disaggregate and analyze by different genders and groups.

- 6.1. This requires gathering data on the experiences and needs of groups considered most at risk, particularly women, especially young women, as well as others, such as the elderly, stateless people, indigenous peoples and people working in informal markets (UN 2020; Figure 2). To this end, create a clear sampling frame/target population and sampling strategy to address this.
- 6.2. Avoid sampling pitfalls that can create bias. Convenience or snowball sampling can lead to oversampling of dominant groups. Consider how to avoid these pitfalls and apply strategies to include the needed gender balance and range of people (socioeconomic groups) in appropriate proportions, such as stratified sampling, quotas or other. Given connectivity and other barriers, this will likely require working through local partners to enable access. If it is not possible to sample marginalized groups directly, consider key informants who can represent marginalized actors effectively and without bias.
- 6.3. Follow through with analysis to disaggregate by gender and, as much as possible, by at least one to two other key dimensions (age, wealth group, type of livelihood). In line with lessons about perverse consequences of pandemic

responses, be sure to follow through with analysis of risks of responses for women and marginalized people.

7. Design research around gender barriers that might otherwise limit women’s involvement or create risks.

The foundation is a good sampling design (strategy 6) that plans to include women and men from diverse groups. However, practical challenges can still limit women from engaging on par with men or speaking freely. Women may have less access to phones than men and face increased domestic care burdens. They also might not be able to speak candidly in front of others in the household, or they could be at risk of repercussions from participating in an interview if the interviewer is male or if it cuts into time for domestic work. Women and men from marginalized socioeconomic groups could face similar issues, including limited connectivity or access to electricity to charge phones.

- 7.1. Follow good practices for ethical dimensions (strategies 3, 4, 5). This includes taking extra care in relation to women’s timing (allow participants to set the time) and time available (short interviews), permissions and negotiating access to phones for women (with more powerful household members). With local partners and gender researchers, work through what forms and processes for compensation will be equitable. In doing so, it is important to avoid repercussions. In some cases, for example, this can involve negotiating transparently with household members about compensation and whom transfers go to. Ensure the value of the study is clear to women who are respondents and, where needed, to other household members.
- 7.2. Note the UN Women’s recommendation NOT to investigate gender-based violence in general socioeconomic impacts of COVID-19 surveys, given the risk of repercussions to women (UN Women 2020).
- 7.3. Aim to have same-gender pairings of interviewer-interviewee pairs. This requires gender-balanced survey teams and work allocated accordingly.

7.4. See also Step 6.2. If access and connectivity are challenges, consider if working through partners, groups or associations can enable engagement. If not, consider finding key informants who can act as reliable secondary sources (effectively representing marginalized actors) as well as secondary data.

8. Apply solid basics of quality science design, despite pressures to move forward quickly with COVID-19 studies.

Remember that although telephone surveys, interviews and other virtual methods seem straightforward, they are in fact challenging to do well. Rushing to gather data and to draw conclusions will mean making mistakes; conversely, well-designed, statistically valid, sampling and analysis will be valuable to COVID-19 responses and future events. Avoid the temptation to jump to study instruments, but rather follow good practice⁶ including the following:

8.1. BEFORE designing the instruments:

- Identify goals and end users of the insights, quality hypotheses and questions.
- Narrow down to exactly what information is essential for answering the questions. Remember that it is more ethical to keep the survey short and focused on information that will be used to inform COVID-19 responses (social value).

8.2. Ask peers and partners, including social and gender scientists, for a rapid review for design quality. Bring their “outside eyes” on the goal, questions, sampling and tool design as well as on the choice of digital platform and plan for analysis.

8.3. Plan carefully how to carry out phone interviews, surveys or others methods effectively, including the following:

- engaging a specialized design team
- working through well-trained enumerators, with training in the tools as well as in dealing with quality, risks and ethical concerns

- designing introductions to the survey and questions that will be readily understood and unbiased/not leading so that participants are able to answer in a way that is true to their lived experience and interpretation will not skew results
- carrying out sufficient pre-tests of interview questions and tools to check and improve validity of the questions, translations and clarifications given by the enumerators (i.e. be sure that you are asking what you think you are asking).

8.4. Balance the current emphasis on quantitative surveys by considering if and when qualitative methods are required, given the human focus of the research and for triangulation (see LSE⁷ or Teti et al⁸). In the recovery phase, once social distancing relaxes, hybrid methods could be of use to allow for larger sample size but with a systems and human focus.⁹

8.5. When using secondary sources, critically assess the validity of the data and of the findings. Many organizations are rushing to demonstrate their value and secure funding during COVID-19. Even well-meaning analysis can draw on out-of-date, misrepresented or misinterpreted statistics. Similarly, findings from fieldwork could be less than fully valid due to challenges with data collection or interpretation (8.3). Look to draw selectively (only) on high quality sources that you trust and can verify.

8.6. Find ways to triangulate and “ground truth” data and findings through secondary data, key informants, partnerships or other means, to ensure accuracy (section IV).

8.7. Do not rush the analysis and interpretation. It is particularly important to triangulate, analyze and interpret well,¹⁰ especially given the dynamic and complex nature of the situation—and the risks of negative consequences if data and messages are not fully reliable.

IV. Effectiveness

“ For all research to be considered ethical, the benefits must be high and the risk minimized. The research community must be very clear about who will benefit from the research, how it can be implemented to inform policy and practice, and in what time frame. ”

—Townsend 2020

9. Go beyond thinking “we’ll just make the data open access once we have it.” Instead, collaborate with end users from the beginning to set up for use and distribution of the insights by local, national and global partners.

As underscored by the WHO (2020) and others, and in line with CGIAR’s (forthcoming) emphasis on partnerships, make COVID-19 research effective (and also thus more ethical) by identifying and working with specific users of the study findings prior to design and field work. Work with these actors to design the research to respond to their information needs, which will increase relevance.

Pro-actively continue communication with these end users to ensure they are getting the data and insights they need returned to them, in the form they need, when they need it. Of course, before returning information, the data needs to be triangulated and the findings need to be carefully verified (Box 2).¹¹ Priority information for sharing with participants and partners will vary by context, but could include the following:

- Women and men in fisheries and aquaculture-dependent communities as well as fish value chains (study participants and others): These actors can be reached individually, such as returning information by phone or social media, and/or through groups and associations. Information of particular interest and value could be about context-relevant, effective (and ineffective) innovations and coping strategies. In other words, returning information is not only ethical, it also enables research to be a conduit of rapid dissemination of “what works.” It enables “horizontal” information flow and recovery among farmers and fishers, instead of information going “up” to public, private and civil society actors.
- Sector and development actors (NGOs, international NGOs, private sector): Information that can inform inclusive and effective programs and practices is of highest priority. This includes information about the needs of actors most at risk as well as their experiences as recovery programs are rolled out. One example would be insights into if and how women’s groups, networks and associations can contribute to the economic resilience and recovery of women in the fisheries or agriculture sector. Another would be what adaptations of capacity development programming and extension are needed.

Box 2. The need to triangulate and verify: Reflecting on the effectiveness and quality of data.

In many current data collection systems—including those using social media or dedicated telephone surveys—farmers and fishers might give responses that they think will generate a benefit in return or provide answers that they think the inquirer wants to hear. Moreover, the stress of the pandemic can influence perceptions and thus responses. All these can result in less valid findings.

Weaknesses—including social or gender blindness—in evidence and recommendations may be used (perversely) to reinforce business-as-usual or inequitable policy responses, such as “no capture fisheries quotas” or “continued restrictions regarding land-use reform.” As such, “ground truthing” and triangulation (section III) is essential for effectiveness. Failure to do so will lead to a lack of confidence in what could otherwise be a useful research inputs.

- Policy actors: This could include the Department of Fisheries or other local to national government agencies. Information on needs, experiences and implications of policies for groups most at risk can be significant. One example would be findings that inform policy to maintain fish supply (markets) while both reducing the spread of COVID-19 in informal markets and protecting livelihoods of poor retailers and value chain actors. Another would be identifying strategies to better ensure that social protection measures reach all fishers and fish value chain actors who need them, including the most marginalized.

10. Take an interdisciplinary, food systems, and wellbeing-oriented approach, both “zooming in” and “zooming out.”

As underscored by the UN, FAO and others, COVID-19 is a complex multidimensional crisis, with far reaching, long-term impacts on multiple aspects of human well-being. However, COVID-19 is only one stressor among and interacting with many. For example, many fishing and farming communities are already experiencing negative impacts from

a wide range of social, economic, climate and environmental drivers. As such, to be effective, research and data collection needs to both “zoom in” and “zoom out” as it investigates from a systems perspective (Box 3).

10.1. Zoom in: Engage multiple disciplinary lenses to build a holistic, detailed understanding of how COVID-19 (or future shocks) and responses to it are impacting different aspects of human well-being among different groups and through what mechanisms. Teams will need to avoid the trap of an overly restricted focus in data collection, analyses or interpretation. For example, gathering data only on changes in inputs or income would create only a partial picture, which would weaken policy recommendations. Instead, in line with the One CGIAR response (CGIAR, forthcoming), research will be stronger by applying a food systems lens (Tezzo et al. 2020) and taking a holistic account of human well-being. To the extent feasible, this means considering how our research during COVID-19 and future shocks can accomplish the following:

Box 3. Example questions to contribute to innovation and resilience.

COVID-19 research is an opportunity to explore innovation and resilience-building as critical aspects of food system transformations. From an early stage, this research contribution will require systems and creative thinking, as encouraged in this brief. To this end, when designing and conducting COVID-19 research, teams may want to consider the following questions:

- How is COVID-19 interacting with other drivers, including climate as well as gender and social inequalities?
- What insights from research into other drivers can be applied to analyzing and mitigating the impacts of COVID-19, including regarding resilience and gender and social inclusion?
- What insights can be gained from studying the impacts of and adaptations to COVID-19 that can be applied to other drivers and to future shocks?
- How can research rapidly but accurately identify strategies, innovations and investments that work in different contexts to facilitate positive adaptations and build resilience against multiple concurrent drivers of change?
- With whom and how should we partner to generate evidence that will inform not just “building back,” or even leaving no one behind, but fundamentally transforming food systems to enable “building forward better”?

- Track a combination of social, nutrition and health, economic and environmental vulnerabilities and outcomes along fish chains. This will require some careful decision-making. For example, low-income fisheries- and smallholder agriculture-dependent populations are considered particularly at risk from COVID-19 consequences (UN 2020). As such, research teams might consider non-traditional partners, like health authorities, to co-generate data and nutrition strategies relevant to inclusive COVID-19 responses.
- Identify interconnections among outcomes and with drivers. This involves identifying which combinations of factors create vulnerabilities or resilience for different women and men in different contexts, including difficulties in accessing COVID-19 social support or adapting. Applying a food-systems approach can aid in identifying these outcome pathways.



Keeping covered while describing a new dish prepared as a part of nutrition month celebration in Taunggyi, Southern Shan, Myanmar.

10.2. Zoom out: Assess how COVID-19 interacts with (is one of many) other drivers of change, and maintain research efforts toward addressing significant concurrent issues, such as poverty, gender inequality and climate change. In the same way that different social, economic and environmental drivers can influence the degree to which people are affected by COVID-19 and their capacity to respond, the pandemic will also influence how people are impacted by and can respond to other shocks and stressors. For instance, COVID-19 is predicted to worsen and prolong socioeconomic marginalization and vulnerabilities. It could dampen adaptive capacities. Furthermore, the independent effects of these drivers are still at work and require ongoing research investment. As such, responding to COVID-19, or any single future shock, should not mean that all other research for development priorities are pushed aside. Rather, it means teams must identify how COVID-19 research and data can be strategically integrated into broader research agendas.

- Aim to understand how different drivers interact with emerging policy, development and private sector COVID-19 responses. In particular, anticipate and identify potential perverse outcomes from responses, especially for women and groups identified as at risk. For example, past pandemic lessons indicate that responses have led to loss of work, especially for women and informal actors. They have also led to a diversion of resources from reproductive health services contributing to increases in maternal mortality, as well as teen pregnancies, and girls dropping out of school, which reduces future empowerment. Similarly, some previous epidemics have reportedly led to market concentration in the recovery period, squeezing out small and medium value chain actors, which worsens poverty effects. In terms of governance, the fact that COVID-19 is amplifying marginalization¹² could further reduce equitable voices (and

thus outcomes) in value chains as well as in broader investments decision-making, including in the rapidly growing Blue Economy.

- Continue to conduct research into other threats, but do so in a COVID-sensitive manner. Even when not directly investigating the impact of COVID-19, any research conducted in vulnerable communities at this time must be held to the highest ethical standards. The strategies outlined above, particularly the principles of proceeding only if benefits outweigh costs, doing no harm and proactively contributing to well-being and safety, can and should be broadly applied to any research involving people under additional strain from the pandemic.
- Look for opportunities to link COVID-19 research and responses into existing research-for-development agendas to achieve multibenefit outcomes. This includes possibly identifying and amplifying some positive effects or opportunities resulting from COVID-19, even though the impacts have been overwhelmingly negative. From an environmental perspective, for example, COVID-19 measures could have led to reduced carbon emissions¹³ or improved air quality as well as prompted innovation. Research can usefully identify what, if anything, the pandemic has generated in terms of digital, governance, supply chain or other innovations for better environmental or other outcomes in aquatic and land-based food systems. The large-scale disruptions caused by COVID-19 could provide an opportunity for fundamental transformations to existing systems and institutions, which are currently unable to meet people's needs in the face of ongoing social, economic and environmental change. This crisis could be a chance to "build forward better" by redressing these underlying system weaknesses to create more sustainable, equitable and resilient food systems.

Final words (for now)

Applying research quality strategies, including gender integration as well as systems and interdisciplinary thinking, creates a strong foundation for research and data collection during COVID-19 and other food system shocks. Careful investments along the lines of the 10 strategies—from partnerships through design, implementation, analysis and use—are a critical part of generating a strong evidence base and effective use. These investments will enable policy, civil society, private sector and development program responses that avoid perverse outcomes and instead enable rapid and inclusive recovery. It is through this investment in quality that R4D will enable recovery processes that “leave no one behind” and set up for transformation toward more resilient, inclusive and sustainable aquatic, land and integrated food systems.

All suggestions for insights from use and suggestions for future versions of this resource are very welcome. Please contact Cynthia McDougall at c.mcdougall@cgiar.org.



Smallholder farmer (in pink top) undergoing COVID-19 health guidelines before aquaculture training with WorldFish in Mbala District, Northern Province, Zambia.

Notes

- ¹ More program-response oriented, but also useful: <http://www.fao.org/3/a-i6630e.pdf> and http://www.fao.org/fileadmin/user_upload/emergencies/docs/Guidance%20Note%20Gender.pdf.
- ² See, for example, these two (of many) discussions of unintentional harmful consequences of development and research for development: <https://blogs.lse.ac.uk/impactofsocialsciences/2019/07/11/do-no-harm-what-development-practice-can-teach-us-about-negative-impact/> or https://www.alnap.org/system/files/content/resource/files/main/donoharm_pe07_synthesis.pdf.
- ³ <https://www.povertyactionlab.org/blog/3-20-20/best-practices-conducting-phone-surveys>
- ⁴ http://emerge.ucsd.edu/wp-content/uploads/2020/08/phone-interview-protocol-recommendations_emerge-covid19.pdf
- ⁵ <https://researchservices.cornell.edu/resources/irb-informed-consent>
- ⁶ Such as: https://emerge.ucsd.edu/wp-content/uploads/2020/08/phone-interview-protocol-recommendations_emerge-covid19.pdf
- ⁷ <https://blogs.lse.ac.uk/impactofsocialsciences/2020/04/20/carrying-out-qualitative-research-under-lockdown-practical-and-ethical-considerations/>
- ⁸ <https://journals.sagepub.com/doi/full/10.1177/1609406920920962>
- ⁹ As one example, SenseMaker for COVID-19: <https://sensemaker.cognitive-edge.com/sensemaker-for-covid-19/>
- ¹⁰ For example, in Myanmar during late May 2020, many COVID-19 surveys highlighted disruptions in the supply of young fish to be stocked in ponds. However, extension workers operating at the household level in some areas found many farmers had received fish by networking. Furthermore, the fish chosen were larger to ensure good survival and a marketable product at the end of the monsoon. The fish were more expensive because they were big—not necessarily due to opportunistic pricing under COVID-19 limited supply scenarios.
- ¹¹ See for example these two discussions of unintentional harmful consequences of development and research for development: <https://blogs.lse.ac.uk/impactofsocialsciences/2019/07/11/do-no-harm-what-development-practice-can-teach-us-about-negative-impact/> or <https://www.alnap.org/help-library/incorporating-the-principle-of-%E2%80%9Cdo-no-harm%E2%80%9D-how-to-take-action-without-causing-harm>.
- ¹² <https://in.one.un.org/gender-responsive-governance-in-the-times-of-covid-19/>
- ¹³ <https://www.carbonbrief.org/analysis-coronavirus-set-to-cause-largest-ever-annual-fall-in-co2-emissions>

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Annex 1. Additional principles shaping information needs

The principles for action for improving food security and nutrition in protracted crises

Address critical manifestations and build resilience

Principle 1

Meet immediate humanitarian needs and build resilient livelihoods

Principle 2

Focus on nutritional needs

Adapt to specific challenges

Principle 3

Reach affected populations

Principle 4

Protect those affected by or at risk from protracted crises

Principle 5

Empower women and girls, promote gender equality and encourage gender sensitivity

Principle 6

Ensure and support comprehensive evidence-based analyses

Principle 7

Strengthen country ownership, participation, coordination and stakeholder buy-in, and accountability

Principle 8

Promote effective financing

Contribute to resolving underlying causes of food insecurity and undernutrition in protracted crises

Principle 9

Contribute to peacebuilding through food security and nutrition

Principle 10

Manage natural resources sustainably and reduce disaster risks

Principle 11

Promote effective national and local governance

Source: Committee on World Food Security, 2015. Framework for action for food security and nutrition in protracted crises. FAO: Rome.

Table 1. Principles for action for improving food security and nutrition in protracted crises.

Principles for engagement in gender equality and the empowerment of women in emergency settings

The principle of **non-discrimination** must be vigilantly applied in emergency settings. Gender-based discrimination often intersects with discrimination based on ethnicity, race, age, socioeconomic conditions or disability, with the effect of augmenting the level of vulnerability and the risks.

Do no harm: FAO aims to minimize the potential adverse effects of its interventions and, where possible, contribute to the overall protection of all segments of the affected population. This includes, importantly, assessing the needs, concerns and capacities of all; ensuring non-discriminatory access to assistance; and addressing the rights of those affected by conflicts and natural disasters.

Participation and inclusiveness as a means to ensure the needs and solutions of women, girls, men and boys are identified and accounted for in humanitarian action, to minimize the risk of exclusion, and to enhance accuracy, effectiveness and durability of interventions.

Special consideration to vulnerable groups, especially women and children: Women and children are particularly vulnerable to sexual and gender-based violence and other forms of exploitation.

Source: Food and Agriculture Organization. 2013. Principles for engagement in gender equality and the empowerment of women in emergency settings. FAO: Rome.

Table 2. Principles for engagement in gender equality and the empowerment of women in emergency settings.



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About FISH

The CGIAR Research Program on Fish Agri-Food Systems (FISH) is a multidisciplinary research program. Designed in collaboration with research partners, beneficiaries and stakeholders, FISH develops and implements research innovations that optimize the individual and joint contributions of aquaculture and small-scale fisheries to reducing poverty, improving food and nutrition security and sustaining the underlying natural resources and ecosystems services upon which both depend. The program is led by WorldFish, a member of the CGIAR Consortium. CGIAR is a global research partnership for a food secure future.

For more information, please visit fish.cgiar.org